THE

Saturday Magazine.

Nº. 600. NOVEMBER 6TH, 1841 { PRICE ONE PENNY.

THE MILK-GIRL. FROM A PICTURE BY GAINSBOROUGH.

GAINSBOROUGH AND HIS WORKS.

I.

THOMAS GAINSBOROUGH, who so greatly excelled among artists in the department of landscape-painting, was born in the year 1727, at Sudbury, in Suffolk. His personal history is, however, very defective, though his works are full of the truest nature, and the purest fancy.

Like the best of the poets, he was born a painter. He has said of himself, that during his boyhood, though he had no idea of becoming a painter, yet there was not a picturesque clump of trees, a single beautiful tree, hedge-row, stone, or post, for some miles round about the place of his nativity, that he could not well and perfectly delineate with his pencil.

Thus, the love of his art led him constantly among the ancient trees, the winding glades, and the sunny nooks. Scenes are still pointed out where he used to sit and fill his copy-books with pencillings of flowers and trees, and whatever struck his fancy; and it is said that those early attempts of the child bore a distinct resemblance to the mature works of the man. At ten years old he had made some progress in sketching, and at twelve he was a confirmed painter.

We are here tempted to narrate a story of one of his early works. On one occasion he was concealed among some bushes in his father's garden, making a sketch of an old fantastic tree, when he observed a man looking very wistfully over the wall at some pears, which were hanging ripe and tempting The slanting light of the sun happened to throw the eager face into a highly picturesque mixture of light and shade: the young artist immediately drew a likeness of him, much to the poor man's consternation afterwards, and much to the amusement of his father, when the man was charged with the design of robbing the garden, and shown how he looked at the time. Gainsborough long afterwards made a finished painting of this Sudbury rustic,—a work much admired among artists under the name of Tom Peartree's portrait.

Though his early sketches made in the woods of Sudbury were numerous, few of them are now known to exist. As his reputation increased, he became less satisfied with such early proofs of talent, and gave them liberally away among friends and visitors. To one lady, we are told, he gave twenty of them: she pasted them on the walls of her apartment, and, on her leaving London, they became the property of the next inhabitant.

His talents being now universally acknowledged, his father was persuaded to send him to town. It appears that he was not more than fourteen years of age when he left Sudbury for the metropolis, and that he studied under Hayman, one of the companions of Hogarth. In the course of time he seemed to feel that no landscapes worthy of the art had yet made their appearance, and that his own works were essentially different from those on which the other artists were engaged. This consideration probably induced him to devote himself rather to landscapes. He remained in London four years, and acquired skill and experience in the management of colours.

Being now in his eighteenth year, he is spoken of as having acquired reputation by his talents, as evincing a modest gaiety in his conversation, and extreme elegance of person. It happened, in one of his pictorial excursions among the woods of Suffolk, that he sat down to make a sketch of some fine trees, with sheep reposing below, and wood-doves roosting above, when a young woman entered unexpectedly, but very *à-propos*, upon the scene, and was at once admitted into the landscape and the feelings of the artist. This young lady was Margaret Burr, of Scottish extraction, and then about sixteen years old, who not long afterwards became his wife.

Soon after this event Gainsborough removed to Ipswich, where he became acquainted with Thicknesse, the governor of Landguard Fort, in the following curious manner. The governor was walking in the garden of a friend, when he perceived a melancholy-faced countryman, with his arms locked together, leaning over the garden wall. He pointed out the man to his friend, who, with assumed gravity, observed that the fellow had been there all day, that he was to be pitied, as being either mad or miserable. The governor then stepped forward, with an intention to speak to the madman, and did not perceive till he had got close up, that it was only a *wooden* man, painted upon a shaped board.

The governor was informed that many had been equally deceived, and was subsequently introduced to the painter of it. Gainsborough received him in his painting room, where, he says, he found many so-so portraits, but some charming landscapes. George the Second, visiting Harwich shortly after, our artist was employed by Thicknesse to paint a view of a yacht regatta scene. The picture was engraved, and contributed to make the name of the artist known. Soon after this he went to Bath, where he chiefly occupied himself with portrait-painting, for the sake of a ready means of livelihood. He got a considerable quantity of employment. His portraits were executed at first for five, and then for eight guineas each,—afterwards forty for a half-length, and a hundred for a full-length. He was occasionally very fond of fun. Once a rich citizen sat to him for his portrait, "with a new five guinea powdered bob-wig on." Gainsborough found something so comical in the look of the citizen, that he burst out into a roar of laughter, of course gave offence, and lost his commission.

Before his arrival at Bath he had been employed by the governor to paint Landguard Fort, including the neighbouring hills, and the port of Harwich. An engraving of this picture spread abroad the name and fame of Gainsborough. Of the original painting of the fort nothing now remains: it was hung on a wall built with mortar mixed with sea-water, and so perished.

Gainsborough and the governor were both of them fond of music, as well as of painting, so that, during the years of their early acquaintance, they seem to have been mutually pleased with each other's company,—the patron being kind and the painter obliging; but, when the fame of the latter began to draw the attention and favour of the public, he scrupled less to let loose his natural disposition, which was of an independent and impetuous cast. The consequence of this spirit was, that the governor soon took offence, and the painter was less and less anxious to soften down the causes of offence. Governor Thicknesse has been accused of misrepresenting and vilifying our artist in his memoirs of his early friend, but in the following paragraph, at least, we look in vain for the spirit of detraction:—

Nature sat to Mr. Gainsborough in all her attractive attitudes of beauty, and his pencil traced with peculiar and matchless felicity her finest and most delicate lineaments, whether it was the sturdy oak, the twisted eglantine, the mower whetting his scythe, the whistling ploughboy, or the shepherd under the hawthorn in the dale,—all came forth equally chaste from his inimitable and fanciful pencil.

WHEN the common topic of the weather is introduced in conversation, or presented to the mind, the agriculturist will naturally refer to its influence on vegetation; the physician to its effects on the health of the community; the man of pleasure may think only of its reference to the sports of the field; the philosopher may endeavour to seek for its cause in some preceding atmospheric phenomena; and another person of certain habits of observation may compare or contrast it with the weather of the same period in a preceding year. Thus, in five individuals the same topic may give rise to five trains of thought, perfectly distinct from each other, yet each depending upon a very natural and obvious principle of suggestion.

BRUNELLESCHI, AND THE CATHEDRAL OF S. MARIA DEL FIORE, AT FLORENCE.

II.

In 1420, the most celebrated architects of Europe again assembled at Florence. Brunelleschi was included in the number, and he flattered himself with the idea, that this grand convocation would supply him not so much with competitors, as with worthy witnesses of his triumph.

Whoever will reflect (says Quatremère de Quincy) on the existing state of the building art, reduced by all Europe to the conceptions and processes of the Gothic, to the entire exclusion of the architecture of ancient Greece and Rome; whoever will think of the novelty of a vault of such lofty dimensions, and of such a diameter, that it has never since been surpassed, need not be astonished at the weakness, or the absurdity of the projects which were presented to this numerous assembly; it seemed like a struggle for superiority in ignorance and marvellousness. Some proposed to raise up pillars, whence should branch off arcs as supports to the timber work destined to bear the weight of the cupola: others advised a great pillar in the middle as a central support: some recommended them to build up a mountain of earth by way of scaffold: they were to mix a large number of pieces of money in this earth, and when the work was finished, they might trust to the cupidity of the multitude to carry off this natural scaffold.

Brunelleschi had not foreseen that true knowledge, if put upon its trial before ignorant judges, must be condemned: since, if it gained the cause, the judges would condemn themselves. When he presented his project, they railed at it as absurd: they did not understand him when he proposed to erect two cupolas, the one within the other, so as to leave a large empty space between them; but they laughed outright and called him *madman*, when he declared that he would employ no interior support,—no timber-work, to centre these immense vaults.

Brunelleschi believed for a moment that the fruit of so many years of toil was all lost. This assembly had only muliplied the doubts, and augmented the irresolution of the judges. Brunelleschi saw that nothing was to be gained by stormy debate: his strength lay in his own and true genius; and he declined further to risk the exposure of the one and the ridicule of the other, before the prejudices of blind and partial judges. He therefore began to attack separately those members of this assembly, which as a united body he could not move. He encouraged some; persuaded others; and half revealed to all the secret of a very simple method, which no one suspected on account of its simplicity. At the next meeting he experienced no more taunts and contradictions.

The elements of Brunelleschi's scheme were quite unknown to his competitors. Accustomed to the lightness of form, and construction of the Gothic, they only knew how to raise to a great height, by means of buttresses, walls hollowed out in a variety of ways; and groined vaults formed of small courses of masonry, where the whole thrust was divided and received by many points of support. But it was above all things necessary, in the erection of the projected cupola, to establish a new system of construction, to employ more powerful materials, more massive and simple points of support; so to act, that the construction, in this vast circumference, should of itself act as scaffold and point of support. Brunelleschi's model would have proved how all this could be done; but he was content to silence his opponents by argument alone: he did silence them, and obtained the suffrages of his judges; but his employers, in the absence of his model, would not allow him to proceed with the work to a greater height than twelve fathoms.

When truth is once established it is firm and immoveable: truth cannot be in opposition to itself, but envy and detraction often exert their nefarious powers to obscure it. It was whispered about that the glory of Florence was sullied by intrusting so magnificent a work to one single architect. A colleague was, therefore associated with him: this was Lorenzo Ghiberti, of whom Brunelleschi had formerly been the rival, was still the enemy, and had refused to become the associate. This man accepted the inglorious participation in a work to which he had contributed nothing, and from which his incapacity alone would have been sufficient to exclude him.

Brunelleschi became furious: the first impulse of his indignation prompted him to abandon the work and his native city for ever; his friends, however, managed to pacify him, and when he had cooled down, his course of action again showed his sagacity. He feigned illness, and thus left Ghiberti sole master of the works, in which situation Brunelleschi well knew that his incapacity for the task would quickly be displayed. Nor was he deceived. The frequent embarrassment and indecision of Ghiberti soon betrayed his ignorance, and some great and palpable errors into which he fell, opened all eyes to the perception of it. After great turmoil and difficulty, therefore, Brunelleschi was nominated sole architect and director in chief of the whole edifice.

From this moment he devoted his whole energy to the work. The smallest details did not escape his vigilant foresight. He directed each workman, but kept in his own hands the choice and destination of materials for his work. Not a stone, not a brick, was placed, without having been first examined by him. Each day he invented new machines, in order to simplify the work of building, or to abridge its operations. He saw, that in proportion as the building rose in height, the workmen lost their time, and expended their strength in fatiguing journeys. He remedied this inconvenience by establishing upon the vault of the church commodious shelters, and furnishing them with all the necessaries of life.

He had by this time displayed his model, by means of which his secret became universally known. No one was weary of admiring the rare skill with which the artist had comprehended all the details, small as well as great, of the construction; the foresight with which he had calculated the internal communications and supports, the openings for the admission of light, the ascending slope, the balustrades, the conduits for carrying off the rain, &c.; ven the minutest details did not escape him. But the greatest admiration was excited by the form and distribution of his materials, and by the mode of their combination, whereby that just system of equilibrium was established which, by mutual pressure produced mutual support, and united the several parts of this splendid dome into one grand whole.

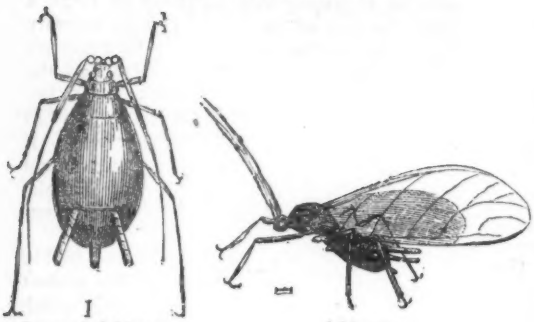
Brunelleschi had the satisfaction before his death to see his cupola completed, with the exception of the external tambour, and a few ornamental details, which he could afford to leave another less gifted individual to complete.

This great and celebrated enterprise, in spite of the multiplied embarrassments and cares which it procured him, was far from occupying the entire life of Brunelleschi. His celebrity caused his assistance to be sought for in many of the great works which were executed in his time, both in civil and in military architecture. Among other productions, we may mention the church of San Lorenzo, and the celebrated Pitti palace, both at Florence.

Brunelleschi died in the year 1444. His remains were interred in Santa Maria del Fiore, with much pomp and ceremony; a monument rising high above his remains that will perpetuate his name, and give to his memory the celebrity which that splendid edifice, after the lapse of nearly four hundred years, still continues to enjoy.

A COUNTRYMAN was shown Gainsborough's celebrated picture of *The Pigs*—"To be sure," said he, "they be deadly-like pigs, but nobody ever saw three pigs feeding together but what one on'em had a foot in the trough."—JESSE'S *Gleanings*.

WHAT IS BLIGHT?



Larva of Aphis rosæ. *Aphis rosæ.*

The pursuits of the farmer, the gardener, and all those who are engaged in rural occupations bring them so much in contact with the productions of nature, that just in proportion as they are interested in understanding their qualities, should we imagine them to be acquainted with the different vegetables grown or reared for economic purposes; to understand the cause of the injuries they are subject to; and to devise efficient remedies for those injuries. But it happens unfortunately that these persons are for the most part quite ignorant of the natural history of the objects of their care; they adopt a certain routine of practice which they have been taught; but, as they are ignorant of the science of their processes, they cannot vary them to suit the exigencies of varying circumstances; and thus they are exposed to frequent loss and inconvenience. If they gather in an abundant crop, they are satisfied, and seek not to inquire why it was more or less abundant than that of succeeding years: but, if the crop fail, they attribute the loss to the attacks of birds, of insects, and above all to the influence of *blighting* winds.

In rural pursuits there is probably no word so much used as *blight*. When the wind is easterly and the country clothed in blue mist the farmer looks anxiously towards his crops and says, there is "a *blight* about." The gardener looks at the yellow sickly appearance of his fruit trees, their leaves or blossoms curled up and destroyed and refers this to the effects of *blight*. The hop grower sees his expectations defeated by myriads upon myriads of green insects which completely overrun and desolate his grounds, and he calls this a *blight*. The planter perceives innumerable small caterpillars swarming on his trees where the day before not one was visible: he remembers that an easterly wind has arisen, and calls it a *blight*. Since these and other similar misfortunes receive the indefinite and mysterious name of *blight*, it may be useful, as far as our present knowledge of the subject extends, to afford a full answer to the question *What is blight?*

The notion that certain small insects, such as caterpillers, aphides or plant-lice, are propagated or at least diffused by certain winds or states of the air, called blight, has been generally credited not only by intelligent persons but also by many good naturalists up to a very recent period. Mr. Main says, that when there is an easterly wind, attended by a blue mist, the latter is called a blight, "and many people imagine that the aphides are wafted through the air by this same mist." Mr. Keith says, "The farmer supposes these insects are wafted to him on the east wind, while they are only generated in the extravasated juices, as forming a proper nidus for their eggs." Dr. Mason Good says, "That the atmosphere is freighted with myriads of insect eggs that elude our search, and that such eggs, when they meet with a proper bed, are hatched in a few hours into a perfect form, is clear to any one who has attended to the rapid and wonderful effects of what, in common language, is called a blight upon plantations and gardens."

It seems to be generally admitted that *insects* are connected with blight, and that these insects appear only during certain states of the air. If, therefore, it be admitted that the wind has any thing to do in the production of blight, one of three things must occur: (1,) the wind must produce this blight spontaneously: (2,) the eggs from which the blights proceed must be wafted by the wind to a given spot: (3,) the prevalence of certain winds must have an influence in giving birth to certain insects inclosed in eggs previously deposited by parent insects upon the spot where the blight is seen.

That any state of the air or wind is adequate to the production of animal life, is a proposition so absurd in the present state of our knowledge, that we pass it by as altogether unworthy of serious notice. But that plants may be blighted or withered up by dry parching winds is fully admitted, for when a plant first produces its young branches and leaves, these parts are tender and succulent, and lose their moisture very readily, so that a certain state of moisture and warmth in the air is necessary to effect the solidification of the newly-formed tissue; and if this state be maintained the branches and leaves become fully formed, and no blight appears. But if, as it often happens in this country, a dry easterly wind prevails, the young plants part with their moisture so rapidly that their roots cannot maintain a proper supply, and the tissue becomes dried up and scorched. Such is blight. The only apparent remedy is to supply moisture to the plants so attacked by washing them frequently with a syringe. Under such circumstances of blight it is not uncommon to burn large quantities of wet litter to the windward of the blighted plants, under the supposition that the smoke will destroy the insects which are the imaginary cause of the mischief. We need hardly say that if any good arises from this practice, it must be attributed to the moist warm smoke which envelopes the plants, most probably without destroying a single insect.

We have the evidence of the microscope to assure us that every drop of water teems with life; but it is only a fancy, quite destitute of such ocular evidence, which encourages us to believe the air to be equally prolific. It is difficult to imagine how the eggs of insects can be found in the air, for those of every known species are much heavier than air, and moreover the parent insects display the greatest anxiety to place their eggs upon or near the proper food of the young progeny. "To commit them to the winds," says an accurate observer "would be a complete dereliction of this invariable law of insect economy." And supposing we admit that the eggs are dropped by the mother insects while on the wing,

We must also admit (for there is no avoiding it), that they continue to float about, unhatched, from the end of the summer till the commencement of spring, at which time only the broods make their appearance. Yet when we consider the rains, snows, and winds to which they must be exposed for six or nine months, we think the hardiest theorist would scarcely maintain that a single egg could outweather these vicissitudes, and continue to float in the air.

Nor is it possible that these eggs can be taken up simultaneously by a strong east wind, and deposited on plants, trees, or other objects where a blight suddenly appears, because when the eggs are deposited, they are, with very few exceptions, enveloped in an adhesive cement which glues them to the spot where they were first placed by the parent insect. It follows, therefore, from the statement of these few simple and well-attested facts that the second proposition must be dismissed as untenable.

We now come to the third proposition, and admit at once that the action of certain winds, influenced by variations in temperature, and other meteorological changes, seems to be capable of calling into life and activity, as it were in an instant, innumerable insects, which, one hour

were concealed each within its minute egg, and in the next hour burst forth to join myriads of its kind in the work of destruction. It is generally considered by naturalists, that the eggs deposited in the preceding autumn, having been laid at the same time, and exposed to similar atmospheric changes, are necessarily hatched at the same time in the spring, when, in fact, intelligence is obtained by the inclosed grubs, from the peculiar state of the air, that the fitting time for bursting forth from the egg is arrived. We propose to speak of the aphides or plant-lice more particularly in a subsequent article; but should the reader find it difficult to believe that the vast numbers of blighting insects often observable on plants have proceeded from the eggs deposited the preceding autumn, we may state, that, in the case of the aphides, the fecundity is almost incalculable. Réaumur proved by experiment that one aphis may be the progenitor of 5,904,900,000 descendants during its life: that in one year there may be twenty generations. Mr. Rennie has counted more than a thousand aphides on a single leaf of the hop; and in seasons when they are abundant—when every hop-leaf is peopled with a similar swarm—the number of eggs laid in autumn must be, to use the words of Dr. Good, "myriads of myriads."

The reader will now have no difficulty in finding an answer to the question, "What is blight?" but we shall not perform our duty satisfactorily unless we enable him to convince himself that blight proceeds from insects the eggs of which were deposited by their parents the preceeding autumn, by searching for and finding such eggs during the winter months, so as to be able to watch the phenomena of blight during the following spring, or to apply a timely remedy to its destructive effects.

The word blight is often applied to the mischief done by all such insects as are injurious to vegetation: and therefore includes many insects of various genera. It will be impossible to speak of these within the short limits of the present article, but on future occasions we may notice them. At present we shall restrict our notice to the history of one species only, which has been carefully studied by Mr. Lewis, and detailed in the *Transactions of the Entomological Society*.

If during the winter months the young branches of the apple tree or the hawthorn be carefully examined, certain small round and slightly convex patches will be discovered. These patches are somewhat less than the sixth of an inch in diameter, and are usually attached to the outside of the branches. Each of these little patches is the work of a small white or lead-coloured moth, studded all over with black spots, popularly called "the small ermine." Each patch consists of a number of eggs, deposited in the month of June, covered with a glutinous substance which when newly applied is of a pale yellow colour, but from exposure to the weather becomes dark, and nearly resembles the bark of the branch. The eggs hatch in the early part of autumn, and the grubs remain confined during winter, at which time if the case be opened, a number of these little grubs, which are of a yellow colour, may be readily seen with the aid of a small magnifying glass. As soon as the trees begin to put forth their leaves, the grubs make their escape, and as they are yet in a feeble condition, and cannot eat the outer skin of the leaves, they burrow into them, where they are protected from the weather, and feed upon the pulp of the leaf. As they grow stronger, and perhaps also during some state of the air which is favourable to them, they gnaw their way out, and the anxious gardener, who has hitherto observed only the brownness of the leaves, caused by the burrowing of the insects within, but which he attributes to the withering effect of an easterly wind, is astounded when he perceives myriads of caterpillars swarming on the trees, and proceeding with alarming rapidity in their devastating course. The fact of their burrowing sufficiently explains the reason of this sudden appearance: it shows how one day not a single caterpillar may be visible on the trees, and the next, they may be swarming with larvæ of so large a size as so forbid the idea of their having been recently hatched. The webs so often seen covering the branches of apple trees, and the hawthorn of the hedges, are the work of this little caterpillar; which after a time becomes of a lead colour spotted with black, and when full grown spins an oblong white cocoon, within which it turns to the pupa; soon after, the moth hatches, and generally about the month of June, if it be a female, deposits her eggs in the way we have already mentioned.

The cuts which accompany this article are highly magnified representations of the larva and the perfect insect of the rose-plant aphis: the small line which accompanies each figure is the actual size of the insect.

Among the various remedies for blight the application of the spirit of tar to the bark has been greatly commended; but Sir Joseph Banks found it sufficient for the protection of his apple-trees simply to remove the rugged and dead old bark, and then scrub the trunk and branches with a hard brush.

PRAYER IN CHILDHOOD

KNEELING in the congregation,
Bending at the lonely shrine,
To the Lord of all creation,
Saviour of the world, and mine—
Though his mercies well may raise
Man to loftiest heights of praise,
And the sins of man should be
Seals of man's humility—
Yet how oft I find I'm still
Strong in a rebellious will,
High in pride, in fervour low—
Wherefore, wherefore is it so?

Thoughts, whose incense should aspire
From the altar of the heart,
Kindled at the sacred fire,
Faith, and Hope, and Love impart,—
Thoughts, to which celestial birth
In the spirit's depths seemed given,
With the grosser fumes of earth
Mixed, and marred, ascend to heaven,
Cold and lifeless, dull and slow—
Wherefore, wherefore is it so?

I can bend my backward gaze
To the dream of childish days;—
Oh! what else can childhood seem
Than a swift and happy dream,
Bright—while yet our sorrows sleep—
Whence at length we wake, and weep?—
Yes! I can point to early years
Memory's glass, though dimmed with tears,
And in thought once more survey
Times, when I was wont to pray
By the evening star's first shining,
Ere upon my bed reclining,
And when morn, with radiant finger
Smiting soft the curtained pane,
Bade those "slumbers light" not linger,
Which shall ne'er be mine again.—
Then indeed I *lisped* my prayer,
Yet my spirit seemed to share
Twice the warmth it now doth know—
Wherefore, wherefore is it so?

'Tis, when the heart is soft and young
That most to heavenly strains 'tis strung—
Ere yet the world's rude discord grieves
The song of heavenward hope it weaves;
Ere yet the world's cold fetter flings
Its burden on the spirit's wings,
And down with deadening influence weighs
The upward flight of prayer and praise;
Or thoughts that bind the soul in sin
Are fortressed into strength within;
Or idle sneer and impious doubt
In secret ambush lurk without,
And with a fiendish joy efface
The tender growth of early grace!—J. S. B.

THE STONE-QUARRIES OF EGYPT.

WE give this article the foregoing title, because it is our object to point attention to the localities which gave birth to those enormous masses of stone which have been, during former ages, distributed over the land of the Nile from south to north. These still remain; but, for the most part, show no relation to the soil where they are now found to exist. The enterprise and research of modern travellers have, however, discovered rational means of accounting for most of the works of art and might, by which any of the ancient nations of the world have signalized themselves in the view of the people of succeeding ages.

It is, for our present purpose, more correct and comprehensive to speak of the *land of the Nile* than merely of *Egypt*. The "valley of the Nile" is another elegant term for this wonderful region, which comprehends the countries of Egypt, Nubia, and Abyssinia. The river may be said to flow down from the Mountains of the Moon through Abyssinia, Nubia, and Egypt, into the Mediterranean Sea, or from south to north. Nubia and Abyssinia formed the Western Ethiopia of the ancients; and Egypt has always been considered to be divided into Upper and Lower; the Upper being southward and the Lower to the north; the latter comprising the Delta, near the sea.

Having thus spoken of the geographical character of the countries under our notice, we will now consider them in a geological point of view, restraining our observations, however, to the region properly receiving the name of EGYPT.

The land of Egypt affords to the notice of the geologist four distinct regions; three in the Upper Egypt, and one in the Lower.

1. The most southern, the *Granite* region, which extends from Philæ, through the cataract district to Syene. It affords besides granite, also *Syenite*, and some other crystalline primitive rocks. The finest granites and syenites, are red and highly crystallized; and are remarkable for their durability and the fine polish which they are capable of receiving. Colossal statues, pillars, obelisks, and even whole temples, are constructed of these beautiful rocks. Some of the pyramids are said to have been originally cased with slabs of granite.

2. The next, or *Sandstone* region, lies to the north of the granite, and extends from Syene, (Assouan,) northwards to Esneh, or over about one degree of latitude. This sandstone is by some authors referred to the *grès*, or sandstone of Fontainebleau, the paving-stone of Paris; by others, to the *molasse de Genève* of Switzerland; but all are agreed in considering it as a comparatively recent deposit. Its colours are white, grey, and yellow; it is very soft and easily worked, and the buildings constructed of it would probably not have long resisted the weather, had they not been covered with a coloured varnish. The great temples, and many pillars and obelisks, are of this sandstone; but it does not appear ever to have been used in building private houses.

3. To the north of the sandstone, but to the south of Thebes, is the *Limestone* region. This substance was formerly much used as a building material. The catacombs of Thebes are situated in this limestone.

4. The whole of Egypt to the north of the limestone, that is, the *Delta* region, is principally composed of *alluvium* (floating mud) deposited from the waters of the Nile.

It will be seen that the first three geological regions here spoken of belong to Upper Egypt, as likewise a part of the fourth.

Before speaking more directly of the quarries of Egypt, it may be well to observe that a quarry is an excavation in the ground, from whence are extracted marble, stone, or chalk, for the purposes chiefly of sculpture and architecture. The name appears to have been applied to such excavations from the circumstance that the materials obtained from them, are there *quadrated*, or formed into rectangular blocks.

All the materials before-mentioned have been employed in the formation of the massive works which yet remain to attest the magnificence of the ancient people of this country. The walls of most of the temples were constructed of sandstone, which appears to have been chiefly obtained from the quarries stretching along the banks of the Nile, in the mountains of Selseleh; but the obelisks and statues which adorned those temples are formed of Syenite or Oriental granite, drawn from the quarries in the islands of Philæ and Elephantine, and particularly from those vast excavations in the mountain-terraces about Syene. At Sais, in the Delta, we are told, there once stood a temple, formed of a single block of granite, which had been floated down the Nile on a raft from the quarry in Elephantine. Two thousand men were engaged for three years in the removal of this temple, which was more than thirty feet in length, twenty in breadth, and twelve in height; the stone was, on the average, about five feet in thickness. One of the pyramids is formed of limestone; a carbonate of lime, of a light gray colour; and the same kind of stone forms the interior mass of another pyramid, while the outside is covered with red granite.

The region of the granite, which may be distinguished by referring to the modern town of Assouan, extends from west to east, on both sides of the river; but the best specimens lie near the stream, and the granite loses its beautiful appearance the further we recede from the east bank towards the Desert. The red granite thus occupies only a small space, forming a kind of portal, or entrance, through which the Nile bursts into Egypt, forcing its way amidst innumerable isolated cliffs, which consist of the most beautiful rose-coloured granite. This red granite is known by its excellent colour, the magnitude of its crystallized component parts, and its hardness; owing to which last quality, it receives an exquisite polish. The rose-coloured feldspath, which sometimes approaches to a brick-red, forms about two-thirds of the mass: the intermediate spaces are filled with the sparkling mica and the glassy transparent-looking quartz. Hornblende is seldom found mixed with it. The Theban obelisks, and many other works of art, were made of this material.

In Upper Egypt, the dryness of the atmosphere, and the general steadiness of the temperature, have contributed, with the hardness of the material, to preserve the polished surfaces of the obelisks, and their more delicate sculptures, uninjured during the lapse of centuries: but those near the sea coast have had their surfaces decomposed by the action of the moist atmosphere.

Near the limits of the red granite are found several varieties, occupying a still more limited space, and forming a transition-series between this and the common granite. They differ from the red granite and from one another, both in colour, component parts, and the size of these component parts, some of which are very coarse, and others small and fine. We see in the existing specimens of Egyptian sculpture, that they often selected some of these varieties in preference to the red-coloured one.

The stone-quarries of Egypt and Nubia shew distinctly to the present day, the mode in which the stones were got out. In the face of the rock are seen a number of long horizontal lines, one above another: the vertical distance between any two adjoining lines shews the thickness of the piece cut out; while the length is clearly marked in several cases, either by the termination of the face of the rock on each side, or by a vertical mark on it, extending from one horizontal line to the next. The stones were taken out of the quarry just in the shape and size required, and were detached from the

mass one after another, by means of little wedges inserted in holes made on the two faces of the stone. Though this is a slow process, it is economical as far as the material of the rock is concerned, and was employed both in the granite quarries of Syene, and in those of Carrara, in the time of the Romans. At the latter place, it is the practice, at present, to blast the marble, by which about three-fourths of the material are wasted. The wedges used in Egypt were either iron ones struck all at once, or wooden ones which were moistened, so as to swell and start the stone from its position.

It appears that the catacombs and excavated temples, which are numerous in Upper Egypt, are, for the most part, the results of the quarries of which we have been hitherto speaking; that is to say, the quarried excavation became a catacomb or a temple*:—both being alike devoted to the interment of the dead.

At the quarry of Gartaas, in Nubia, about twenty-five miles south of Assouan, is a small chapel, supposed to have been for the use of the workmen. The doorway, as in the case of most of the quarries in these parts of the Nile, fronts the river, and forms the entrance to the long open galleries which conduct to the excavations. The quarries on the east side of the river, at Hadjar Selseleh, contain representations, cut in the stone, of the implements used in quarrying: two of them look like wedges, but differ somewhat in shape; and another is in form precisely like the modern lever, which is used by masons for raising stones. It has a circular top, which might be a kind of ring, then a horizontal bar or bolt, while the lower part is a truncated triangle, with the base forming the lowest part of the instrument. From the numerous inscriptions existing in these quarries, it is evident that they were worked likewise by the Greeks and Romans.

The sandstone quarries of Hadjar Selseleh furnished the chief materials for the temples, as the granite quarries of Syene (Assouan) did for the obelisks and colossal statues. The Egyptians were careful to cut out such pieces as suited their purpose best, from among the several varieties of sandstone; and it is as easy to find large unbroken masses of this substance as in the quarries of Syene. Beams for architraves, to the length of twenty-five or thirty feet, and large pieces suitable for colossal sphinxes of nearly equal length, were easily procured in these quarries. The stone is soft and very easily worked. This is shown in the case of the colossal sphinx-head of the British Museum, which suffers considerably from the damp atmosphere of our climate.

The vast sizes of the stones that were transported from the quarries of Syene, to the most remote parts of Egypt, may be inferred from the huge statues, obelisks, and monolith† temples, of which specimens now exist. At the present day, there is a large cubical block lying on the road, between the granite quarries and Syene, which, from some cause or other, has never reached its destination. It has sculptures on two of its vertical faces, and is more than thirty feet every way. In another place was observed a block for a colossus, about sixty-eight feet high. It is supposed that the larger masses of rock used in constructing temples, &c., were taken in the rough to the place where they were to stand, and there received their full shape and decoration; but that the smaller members of the architecture were completed, or nearly so, in the quarry.

The ancient Egyptian method of producing the obelisk was as follows: They marked out in a hill a stratum for the purpose; levelled the surface with digging tools; and then, with a chisel, cut some furrows or channels to define the opposite sides. These being excavated to a certain depth, they tore the obelisk from the rock by the aid of the wedges, of which, vestiges now remain. In a similar way are still cut in France pieces of granite, forty-five feet long and eighteen broad. It was easier to seat a colossus on its pedestal, than to deal with an obelisk; the former having a comparatively large base, and being less liable to snap asunder. The obelisks when cut were placed upon sledges, and drawn to the river, where, a vessel or raft, purposely constructed, was firmly tied to the shore; and a bridge being made out of strong beams, from the edge of the shore, or from steps cut in the bank, and being made to project as far as the raft, any weight, by means of rollers, could be transferred to it. The stone was thus conveyed by the river to any part of Egypt.

The Egyptians being contented with low plinths instead of stylobates, the obelisks were thus erected; they were dragged from the river along a causeway made of earth or stones, until the base of the obelisk impended over a hole made in the plinth. A tower of beams was then constructed, ropes tied round the top of the stone, and engines so disposed that it could be elevated. When it was raised to the perpendicular, it subsided into the cavity of the plinth by its own weight. In carving the figures the Egyptians seem to have used the same tools as the moderns; and they seldom used a pedestal for the obelisk.

* See two interesting articles on *Cavern Temples and Tombs*;—Nos. 53 and 64 of this work.

† The word "*monolith*" is from the Greek, and implies *the being made of a single stone.*

UNINVITED GUESTS IN THE DESERT.

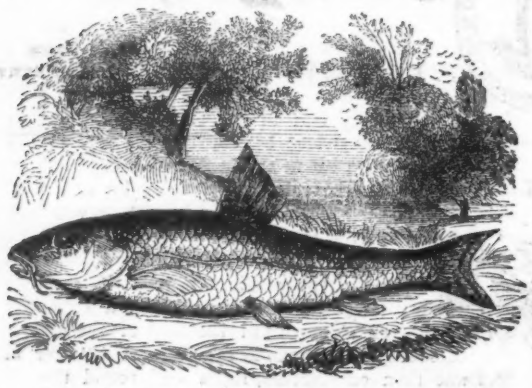
All was activity and bustle to prepare the coming feast. The kid was killed and dressed with great dexterity and despatch; and its still quivering members were laid upon the fire and began to emit savoury odours, particularly gratifying to Arab nostrils. But now a change came over the fair scene. The Arabs of whom we had bought the kid had, in some way, learned that we were to encamp near; and, naturally enough, concluding that the kid was bought in order to be eaten, they thought good to honour our Arabs with a visit, to the number of five or six persons. Now the stern law of Bedawîn hospitality demands that, whenever a guest is present at a meal, whether there be much or little, the first and best portion must be laid before the stranger. In this instance the five or six guests attained their object, and had not only the selling of the kid, but also the eating of it; while our poor Arabs, whose mouths had long been watering with expectation, were forced to take up with the fragments. Beshârah, who played the host, fared worst of all; and came afterwards to beg for a biscuit, saying, he had lost the whole of his dinner.—Robinson's *Palestine.*

CANADIAN FOLIAGE.

Both the spring and autumnal colouring of the vegetable world are richer and fresher here than at home. Vegetation, long oppressed by a severe winter, bursts at once into luxuriousness and liberty, with the apparent gusto of animal sensation, as if determined to enjoy the genial but transient summer to the utmost. In the autumn the juices are not dried up in the leaves by a slow sereing process, as in England, before they fall off shrivelled and discoloured, but the first smart night-frost in September changes the foliage at once, with much sap still circulating vigorously, into red, brown, yellow, or other tints, as if by a direct chemical or dyeing operation. All shall be green during our evening walk, and in the morning the aspect of the forest may be entirely metamorphosed, and we are presented with the most rich and varied picture of different but harmonious hues according to the nature of the leaf, its smoothness of surface, strength of texture, and the age of the branch from which it proceeds. The woods, at this season, present one magnificent and unrivalled mosaic painting. The birch and the white ash turn brown and yellow in a night; the butter-nut tree adopts a buff livery; the maple becomes of a rich blood red - every family has its own peculiar colouring, while the hardy pine tribe leaf defies the cold, and preserves its green unaltered amidst the general change. The nice grades of colour vary infinitely, according to the age and position of the trees, the quality of the soil, the earlier or later cold weather, the severity of the frost, with many other causes that have hitherto escaped observation.—*Trifles from my Portfolio.*

FRESH-WATER FISH. IX

THE GUDGEON, (*Cyprinus Gobio.*)



Loe, in a little boat where one doth stand,
That to a willow bough the while is tied,
And with a pole doth stir and raise the sand,
Whereas the gentle streame doth softly slide,
And then with slender line and rod in hand,
The eager bite not long he doth abide.
Well loaded is his line, his hooke but small,
A good big cork to bear the stream with all.
His bait the least red worme that may be found,
And at the bottome it doth alwayes lie;
Whereat the greedy gudgeon bites so sound,
That hooke and all he swalloweth by and by:
See how he strikes, and puls them up as round
As if new store the place did still supply;
And when the bit doth die, or bad doth prove,
Then to another place he doth remove.

THE present method of fishing for gudgeons is very similar to the picturesque description contained in the above lines quoted from *The Secrets of Angling*, a poem in three books by John Davers, or John Dennys, Esq., for it is uncertain to which of these gentlemen the poem is to be ascribed. The entry at Stationers' Hall, February 28, 1612, has only the initials J. D. attached to it; but Walton has no doubt that Davers is the real author.

The gudgeon is sometimes called the silvery olive carp: its upper lip is furnished with barbs, and the dorsal fin and tail spotted with black. One species only is known in this country, but probably another may exist. It is common in many parts of Europe and exhibits a striking instance of the power of fishes to accommodate their habits to various climates. This faculty is not so remarkable in marine fish because the temperature of the sea does not greatly vary in different latitudes; but the temperature of rivers must correspond with that of the soil and atmosphere through which they flow. Dr. Russell met with gudgeons in Syria; and Aristotle mentions them as being natives of Greece. They are common in Germany, where a smaller variety, called wapper, is also found.

The gudgeon is very common in our rivers, canals and still waters: it is found in greatest perfection and most abundantly in moderately swift rivers which flow over a gravelly soil. Their numbers are so immense that some naturalists have imagined them to spawn twice a year. It is most probable, however, that they spawn only once, but the time of spawning is different in different waters. The gudgeon spawns about May, but does not deposit its ova at once, but at distant periods extending through the space of about a month.

Some waters are more favourable than others to the growth of gudgeons. They are generally small fishes, seldom exceeding eight inches in length. Occasionally however they have been taken of larger size. Mr. Pennant notices one caught near Uxbridge that weighed half a pound. Mr. Daniel states that he had some in a pond of his own, and that their average weight was five or at most six to the pound. Gudgeons are often taken in the extensive waters of some parts of England in nets, nullies, keils, &c., for the purpose of baiting other fish, or for the markets. They are greatly esteemed as food, especially for invalids, and are reckoned to be very easy of digestion.

"They be scattered up and down every river in the shallows, in the heat of summer; but in autumn, when the weeds begin to grow sour and rot, and the weather colder, then they gather together, and get into the deeper parts of the water."—WALTON. The gudgeon is a ground feeder, as its barbs imply;—its food is water insects. small mollusca, and the spawn and young fry of other fishes.

Gudgeons are usually found in shoals; and will take almost any bait; so much so that a person who is easily imposed on by shallow devices is often called a gudgeon. Perhaps the most tempting bait is a small red worm as noticed in our motto; where the raking or the stirring up of the bed of the river is also noticed and is still adopted as an essential process in gudgeon fishing. The object of raking is to disturb the caddies, and various minute worms, water snails, &c., which lurk among the stones and gravel at the bottom of the stream and on which the gudgeons feed. The disturbance causes the fish to hasten to the spot for the purpose of getting an easy supply of food. Mr. Blaine says, that in the Thames as many as fifty dozen of gudgeons have been taken in a day.

A FIRST LANDING IN THE WESTERN IND.

THE charms of a tropical country, when novel, are calculated to make a delightful impression on the mind: and as we roamed along the lanes and cane-fields of Santa Cruz during the first few days after our arrival, we could easily conceive the pleasure enjoyed by Columbus and his followers, when the fertility and beauty of West Indian scenery first burst upon their view. Many beautiful productions of nature however, not indigenous, are now added to the catalogue of wonders which inflamed the imagination of Columbus.

Almost every plant we saw as we drove or rode about the country, from the largest tree to the smallest weed, was unknown to us, and formed the subject of a somewhat troublesome inquiry. It was a new world to us, as well as to its first discoverer; and several days must be passed amidst these scenes before one can obtain anything like a familiar acquaintance with the productions of nature. Splendid exotic plants, which would be regarded as rarities even in the green-houses of England and America, are cultivated in the little gardens of Santa Cruz; and the wild flowers are scarcely less attractive. Amongst them we observed large kinds of convolvulus, white and pink, yellow bell-flowers, scarlet creepers, bright blue peas of singular beauty; and, to crown all, the "Pride of Barbados," sometimes crimson, sometimes yellow, with butterfly petals, long pendant stamina, and acacia-like leaves, adorning the hedges in great profusion. The trees are for the most part bearers of fruit, and many of them are covered with luxuriant foliage. To select a few of the most remarkable, I would just mention the plantain and banana, (nearly the same in appearance,) with pendant leaves of vast dimension, and a profusion of finger-like fruit growing in clusters; the wild orange tree, covered at the same time with fruit and flowers; the lime, which lines the hedges, and is equally fragrant, producing in abundance a small kind of lemon; the guava, with pink blossoms and pear-like fruit, also frequent in the hedge-rows; the mango, heavily laden with foliage, and with fruit in its season; the mammee, growing to a great size, and profusely covered with glazed dark green foliage; lastly, the tamarind, with its light feathery leaves and long pods, which contain the fruit used for a preserve, spreading its branches far and wide, like the British oak.—GURNEY.

LONDON:
JOHN WILLIAM PARKER, WEST STRAND.
PUBLISHED IN WEEKLY NUMBERS, PRICE ONE PENNY, AND IN MONTHLY PARTS, PRICE SIXPENCE.
Sold by all Booksellers and Newsvenders in the Kingdom.